

**Direct Authentication and Authorization System and Method for Trusted Network  
of Financial Institutions**

U.S. Patent Application of:

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**Direct Authentication and Authorization System and Method for Trusted Network  
of Financial Institutions**

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a continuation in part of and claims priority to U.S. patent application Serial No. 09/940,635 filed August 29, 2001. This application also claims priority to U.S. provisional patent application Serial No. 60/615,603 filed October 5, 2004.

**BACKGROUND OF THE INVENTION**

**1. FIELD OF THE INVENTION**

The present invention generally relates to a direct authentication and authorization system and method for trusted network of financial institutions allowing them to directly authenticate their customers and receive their

authorization of financial transactions over a communication network such as the Internet. More specifically, the present invention is based on a new identification and authentication scheme as digital identity that enables financial institutions to directly authenticate their account owners and/or receive their authorization of financial transactions over a communication network such as the Internet.

## 2. BACKGROUND OF THE INVENTION

With the advent of the Internet, the number of online financial transactions has increased dramatically. With this increase, concerns for the security of the financial transactions, proof of authorization for such transactions, and the need for direct authentication of the parties to these transactions have also risen. Therefore the Internet is more than just a different delivery channel for online financial transactions. There are two unique characteristics of the Internet that require special considerations:

- The anonymity of the Internet creates an environment in which parties are not certain with whom they are doing business, which poses unique opportunities for fraud
- The Internet is an open network, which requires special security procedures to be deployed to prevent unauthorized access to the consumer financial information

These unique characteristics of the Internet needed to be addressed by financial institutions in order to maintain their dominance in the payment arena.

Today, any authentication over a communication network such as the Internet is an indirect authentication. Meaning, customers provide confidential, personal and financial information, in the form of social security numbers, names, addresses, credit card and bank account numbers, and businesses verify this information by accessing external databases. This type of authentication is not sufficient to truly identify the identity of customers and tell whether the customer is the actual account owner. This is why financial institutions have limited their online interbank and intrabank service offerings. For example, today, the financial institutions require their account owners to do their interbank funds transfer at a branch office and send a physical check to the receiver of the funds for payment, both of which are inconvenient and burdensome to corporate and individual customers.

NACHA (National Clearing House Association) operating rules and federal government regulations also require financial institutions to authenticate their customers' identity and receive their authorization for any type of financial transaction such as payment or funds transfer over the Internet. In the physical world, financial transactions are authorized by the account owners in writing and signed or similarly authenticated. In the online world however, financial institutions do not have any solution to meet these requirements. An electronic authorization for an online transaction should be authenticated by a method that 1) identifies the customer (account owner), and 2) manifests the assent of the customer to the authorization. Therefore, financial institutions must use a method that provides the same assurance as a signature in the physical world (a

signature both uniquely identifies a person and evidences his assent to an agreement). These objectives should be met by whatever method or process a financial institution employs when obtaining a customers' authorization electronically.

When dealing with customers over any communication network such as the Internet, financial institutions are facing numerous challenges:

- Be able to identify the identity of the customers;
- Be able to obtain transaction authorization from customers over the Internet;
- Be able to confirm that the customer is the account owner and is authorized to use such account

Financial institutions must meet these challenges in order to expand their online service offerings (interbank and intrabank) and maintain their dominance in the market. But lack of identification and real-time account verification methods have prevented financial institutions to achieve their goals.

Today, there are three different identification and authentication schemes in the market:

- Knowledge-based, which involve allowing access according to what a user knows;

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